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WATTS, HOFFMAN&FISHER

NO.317 P.1

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WATTS, HOFFMANN, FISHER & HEINKE CO., L.P.A. ATTORNEYS AT LAW

U.S. POSTAL ADDRESS: P.O. Box 99839 Cleveland, Ohio 44199-0839 BUILDING ADDRESS: 1100 Superior Avenue, Suite 1750 Cleveland, Ohio 44114-2518

TELEPHONE (216) 241-6700 FACSIMILE (216) 241-8151 E-MAIL: IPLAW@WATTSHOFF.COM

FACSIMILE TRANSMITTAL

To:	U.S. Patent and Trademark Office
Organization:	Initial Patent Examination Filing Receipt Corrections
Facsimile No.:	703-746-9195
From:	Stephen J. Schultz, Esq.
Date:	March 14, 2003
Our File No.:	14-694 (U.S. Serial No. 09/700,606
No. of pages: (including this cover pg.)	27

MESSAGE:

URGENT

Dear Sir/Madam: The above-identified patent application has been allowed. We have previously submitted six requests for a corrected filing receipt to correct priority information. All requests have gone unanswered and are attached for your reference. Since this case is getting ready for issuance, please forward a corrected filing receipt corresponding to our previous requests as quickly as possible. Obviously, we want to have the patent issue with correct priority information. Thank you for your attention to this matter.

☐ (if checked) A confirmation copy of this transmission will follow via U.S. mail.

CONFIDENTIALITY NOTE

The information accompanying this facsimile transmission may be confidential, privileged, and exempt from disclosure under applicable law. This information is intended only for the individual or entity identified on this transmittal. If you are not the intended recipient, be aware that any disclosure, dissemination, copying or distribution, or use of this information is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone (collect), so that we can arrange for the retrieval of the transmitted facsimile page(s). Thank you.

WATTS, HOFFMANN, FISHER & HEINKE CO., L.P.A. ATTORNEYS AT LAW

U.S. POSTAL ADDRESS: P.O. Box 99839 Cleveland, Ohio 44199-0839 BUILDING ADDRESS: 1100 Superior Avenue, Suite 1750 Cleveland, Ohio 44114-2518

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FACSIMILE TRANSMITTAL

To:	U.S. PTO
Organization:	Filia Receipt (burections)
Facsimile No.:	703-146-9195
From:	Stone Schutz
Date:	11/5/02
Our File No.:	14-694-
No. of pages: (including this cover pg.)	9

MESSAGE:

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(if checked) A confirmation copy of this transmission will follow via U.S. mail.

CONFIDENTIALITY NOTE

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A copy of the original filing receipt is enclosed which shows the necessary corrections. A corrected filing receipt is again respectfully requested.

Respectfully submitted,

Reg. No. 29,108

Date: Nov 5, 200=2

Telephone: 216-241-6700 Facsimile: 216-241-8151

MAR.14.2003 10:01AM

WATTS, HOFFMAN&FISHER

NO.317 P.

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SSION RESULT REPORT (JAN. 6.200 2:07PM) *

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Applicant(s): Title: Serial No: Serial No: Mailing Date: Geoelpt is hereby schnowledged of the following: Transmittal (pages) Provisional Application for Patent Cover Sheet Request for Filing a Patent Application under 37 CFR 1.63 (b) (pages) Request for Filing a Patent Application under 37 CFR 1.63 (d) (pages) Patent Application (total pages) Patent Application (total pages) Patent Application (total pages) Provisional, New Nonprovioral Form PTO 1533 Continuation, Divisional SIP Over page pages of specification pages of abstract pages of abstract pages of Appeal Brief in Triplicate (pages) Appeal Brief in Triplicate (pages) Request for Confinued Examination Primary Amendment (pages) Amendment (pages) Amendment (pages) Request for Confinued Examination Primary Amendment (pages) Amendment (pages) Request for Confinued Examination Primary Amendment (pages) Request for Confinued Examination Representation Repre	PATENT APPLICATION	
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PATENT IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION:

Usama Fayyad et al.

Serial No.

09/700,606

Filed: January 31, 2001

Title: SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES

HAVING

MIXED ATTRIBUTES

Docket No. 14-694 - 4254

WATTS, HOFFMANN, FISHER & HEINKE, CO., L.P.A. 1100 Superior Avenue, Ste. 1750 Cleveland, Ohio 44114

Assistant Commissioner for Patents Office of Initial Patent Examination's Customer Service Center Washington, D.C. 20231

SECOND REQUEST FOR CORRECTED FILING RECEIP?

Sir:

Applicant's attorney filed a request for a corrected filing receipt on February 7, 2002. To date, a corrected filing receipt has not yet been received.

As evidenced by the enclosed copy of page one of the specification, specifically, the first two paragraphs which have been highlighted for your convenience, and the enclosed copy of the Declaration and Power of Attorney, the correct domestic priority data as claimed by applicant should read as follows:

THIS APPLICATION IS A 371 OF PCT/US99/06717 03/29/1999 WHICH IS A CIP OF 09/083,906 05/22/1998

WHICH CLAIMS BENEFIT OF 60/086,410 05/22/1998.

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A copy of the original filing receipt is enclosed which shows the necessary corrections.

A corrected filing receipt is respectfully requested.

Respectfully submitted,

Reg. No. 29,108

Date: Aug 15, 2002.

Telephone: 216-241-6700 Facsimile: 216-241-8151

PATENT APPLICATION		Attorney Docket No.: 14-124
Applicant(s):	otal)	
Title: MATO: BANIA	1 Found	NOTA MITTAL PYLLON
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PATENT IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION:

Usama Fayyad et al.

Serial No.

09/700,606

Filed: January 31, 2001

Title: SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES HAVING

MIXED ATTRIBUTES

Docket No. 14-694 - 4254

WATTS, HOFFMANN, FISHER & HEINKE, CO., L.P.A. 1100 Superior Avenue, Ste. 1750 Cleveland, Ohio 44114

Assistant Commissioner for Patents Office of Initial Patent Examination's **Customer Service Center** Washington, D.C. 20231

REQUEST FOR CORRECTED FILING RECEIPT

Sir:

As evidenced by the enclosed copy of page one of the specification, specifically, the first two paragraphs which have been highlighted for your convenience, and the enclosed copy of the Declaration and Power of Attorney, the correct domestic priority data as claimed by applicant should read as follows:

THIS APPLICATION IS A 371 OF PCT/US99/06717 03/29/1999 WHICH IS A CIP OF 09/083,906 05/22/1998 WHICH CLAIMS BENEFIT OF 60/086,410 05/22/1998

> I hopely to Da a district Us S. Postal Service of the Me Assisted Commissioner at 22 mors, Weekly how forth 20201

selultz.

A copy of the original filing receipt is enclosed which shows the necessary corrections. A corrected filing receipt is respectfully requested.

Respectfully submitted,

Stephen S. Schultz Reg. No. 29,108

Date: Feb 7 2002.

Telephone: 216-241-6700 Facsimile: 216-241-8151

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PATENT APPLICATION:

Usama Fayyad et al.

Serial No.:

09/700,606

Group Art Unit: 2121

Filed:

January 31, 2001

Examiner: Not yet assigned

Title:

SCALABLE SYSTEMS FOR CLUSTERING OF

LARGE DATABASES HAVING MIXED ATTRIBUTES

Docket No.: 14-694 - 4254

Watts, Hoffmann, Fisher & Heinke Co., L.P.A. 1100 Superior Ave., Ste. 1750 Cleveland, OH 44114 (216) 241-6700 - telephone (216) 241-8151 - facsimile

Assistant Commissioner for Patents Office of Initial Patent Examination's Customer Service Center Washington, D. C. 20231

STATUS REQUEST REGARDING CORRECTED FILING RECEIPT

Dear Sir:

A request for a corrected filing receipt was filed in the U.S. Patent Office on June 1, 2001, a copy of the submitted documents are enclosed. It is respectfully requested that the Patent and Trademark Office indicate when it will issue a corrected filing receipt.

Respectfully submitted,

tyshu Schultz

out 1, 2002

Stephen J. Schultz Reg. No. 29,108

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Bi MURANSI.

PATENT APPLICATION Assignment(s) (Mailing Date: Assignment Cover Sheet(8) (Receipt is hereby acknowledged of Small Entity Statement (____ _pages) Provisional Application for Patent Cover Sheet Number of Priority Document(9) Response to Notice to File Missing Parts Request for Filing a Patent Application under 37 CFR 1.53 (b) (_ _____pages) Copy of Notice to File Missing Parts Request for Filing a Patent Application under 37 CFR 1.53 (d) (___ Form PTO-1533 Patent Application (___total pages) 🖸 Information Disclorure Statement (Provisional, New Nonprovisional, Continuation, Divisional, CIP, Number of Documents Petition for a ____Month Extension of O PCT. O Preliminary Amendment (cover pege pages of specification _number of claims _D8G63) Notice of Appeal (___pages) pages of Appeal Brief in Triplicate (pages of abstract C Lasue, Fee Transmittal PTOL-858 & COPY _sheats) Declaration(s) with Power of Attorney _pages)



WATTS, HOFFMANN, FISHER & HEINKS
WATTS, HOFFMANN, FISHER
& HEINKE CO., L.P.A.
SUITE 1750
1100 SUPERIOR AVENUE
CLEVELAND, OHIO 44114-2518

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A Scalable System for Clustering of Large Databases Having Mixed Data Attributes

Cross Reference to Related Applications

The present invention is a continuation in part of co-pending United States patent application serial number 09/083,906 entitled "A Scalable System for Expectation Maximization Clustering of Large Databases" to Fayyad et al having a filing date of May 22, 1998, and which is assigned to the assignee of the present application and is incorporated herein by reference.

Priority is claimed from provisional United States patent application serial number 60/086,410 filed May 22, 1998.

Field of the Invention

The present invention concerns database analysis and more particularly concerns an apparatus and method for clustering of data into groups that capture important regularities and characteristics of the data.

Background Art

Large data sets are now commonly used in most business organizations. In fact, so much data has been gathered that asking even a simple question about the data has become a challenge. The modern information revolution is creating huge data stores which, instead of offering increased productivity and new opportunities, can overwhelm the users with a flood of information. Tapping into large databases for even simple browsing can result in a return of irrelevant and unimportant facts. Even people who do not 'own' large databases face the overload problem when accessing databases on the Internet. A large challenge now facing the database community is how to sift through these databases to find useful information.

Existing database management systems (DBMS) perform the steps of reliably storing data and retrieving the data using a data access language, typically SQL. One major use of database technology is to help individuals and organizations make decisions and generate reports based on the data contained in the database.

An important class of problems in the areas of decision support and reporting are clustering (segmentation) problems where one is interested in finding groupings (clusters) in the data. Data clustering has been used in statistics, pattern recognition,

Attorney's Docket No. 14-694

Patent

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below-named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

OR CLUSTERING OF LARGE DATABASES MIXED DATA ATTRIBUTES

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the specification	of which:
	is attached hereto. was filed on as United States Patent Application Number and was amended on (if applicable). was filed on (area 29. 1999 as PCT International Application Number PCT/US99/06717.
I have review	wed and understand the contents of the above-identified specification, including the claims, as amended intreferred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56. Under that section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and (1) it establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or (2) it refutes, or is inconsistent with, a position the applicant takes in: (i) opposing an argument of unpatentability relied on by the United States Patent and Trademark Office, or (ii) asserting an argument of patentability.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application(s) which designated at least one country other than the United States, listed below. I have also identified below any corresponding foreign application(s) for patent or inventor's certificate or any corresponding PCT international application(s) having a filing date before that of the application(s) on which priority is claimed.

Prior Foreign Application(s) Priority Claimed Filing Date Country Number (Yes or No) (mm/dd/yyyy)Yes 29 March 1999 PCT PCT/US99/06717

> EXEMPLE MADE LICEN NO. I nereby certify that this paper is being deposited with the US S. Postal Service as Express Mail addressed to the Assistant Commissioner for Patents Washington, O.C. 2023;

[Page 1 of 3]

Received from < 216 241 8151 > at 3/14/03 10:13:04 AM [Eastern Standard Time]

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

United	States	Provisional	Apr	plication(s)

Application Number	Filing Date (mm/dd/yyyy)
60/086,410	May 22, 1998

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or § 365(e) of any PCT international application(s) designating the United States, listed below. Insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application.

United States Application(s) Upon Which Priority is Claimed

Application Number	Filing Date (mm/dd/yyyy)	Status (abandoned, pending, patent number)
09/083,906	May 22, 1998	Pending
09/083,900	<u> </u>	

I hereby appoint the following attorney(s) and/or agent(s), all of whom are associated with Watts, Hoffmann, Fisher & Heinke Co., L.P.A., having offices at 1100 Superior Avenue East, Suite 1750, Cleveland, Ohio 44114-2518, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith:

Thomas E. Fisher, Reg. No. 18,271 Stephen J. Schultz, Reg. No. 29,108 Lowell L. Heinke, Reg. No. 19,471 John R. Hlavka, Reg. No. 29,076 George L. Pinchak, Jr., Reg. No. 37,697 Linn J. Raney, Reg. No. 23,078 Paul A. Serbinowski, Reg. No. 34,429 Richard A. Sharpe, Reg. No. 34,722 James G. Watterson, Reg. No. 20,180 Peter R. Hagerty, Reg. No. 42,618 Kenneth J. Smith, Reg. No. 45,115

and the following attorney(s), all of whom are associated with Microsoft Corporation having an address of One Microsoft Way, Redmond, Washington 98052-6399;

Daniel D. Crouse, Reg. No. 32,022

Katie E. Sako, Reg. No. 32,628

to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, and I hereby designate the foregoing Stephen J. Schultz, Reg. No. 29,108, principal attorney.

This appointment shall include all power to prosecute and transact all business relating to all applications corresponding to this application in all countries, including all regional and international patent offices, such as, but not limited to, the European Patent Office and all offices and bureaus established in accordance with the Patent Cooperation Treaty.

I hereby further designate and appoint any officer of Watts, Hoffmann, Fisher & Heinke Co., L.P.A. my attorney in fact with full power of substitution and revocation, including power to designate a substitute principal attorney.

Address all correspondence to:

Full Name of Sole or First Joint Inventor. Usama Fayyad

WATTS, HOFFMANN, FISHER & HEINKE CO., L.P.A. 1100 Superior Ave., Ste. 1750 Cleveland, Ohio 44114-2518

Direct all telephone calls to <u>Stephen J. Schultz</u> at (216) 241-6700 and direct all facsimile correspondence to (216) 241-8151.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

Inventor's Signature:	Date.		
Residence: Mercer Island, Washington	Citizenship: United States of America		
Post Office Address: 9705 SE 43rd Street, Mercer I	sland, WA 98040		
Full Name of Second Joint Inventor: Paul S. Bradley			
Inventor's Signature:	Date:		
Residence: Seattle, Washington	Citizenship: United States of America		
Post Office Address: 600 Lake Washington Blvd., E	East, Apt #C, Seattle, WA 98112		

Inventor's Signature:	Date:		
Residence: Kirkland, Washington	Citizenship: United States of America		
Post Office Address: 12107 86th Avenue, NE, K	irkland WA 98034		



United States Patent and Trademark Office

COMMISSIONER FOR PATENTS UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE RECO | ATTY.DOCKET.NO | DRAWINGS | TOT CLAIMS | IND CLAIMS | 100 CLAIMS | 100

CONFIRMATION NO. 8142

FILING RECEIPT

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Watts Hoffman Fisher & Heinke Company Suite 1750 1100 Superior Avenue Cleveland, OH 44114-2518

APR 2 7 2001

Date Mailed: 04/24/2001

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Applicant(s)

Usama Fayyad, Mercer Island, WA; Paul S. Bradley, Seattle, WA; Cory A. Reina, Kirkland, WA; 09/083,906

Domestic Priority data as claimed by applicant,

THIS APPLICATION IS A 371 OF PCT/US99/06717 03/29/1999 WHICH IS A CIP OF 60/083,905 05/01/1998

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05/22/98

Foreign Applications

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

Title

Scalable system for clustering of large databases having mixed data attributes

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Page 2 of 4

Preliminary Class

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Data entry by : NGUYEN, SON

Team : OIPE

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